

**REMARKS**

Claims 1, 3, 4, 6-19 and 21-25 are all the claims pending in the application. Claims 2, 5 and 20 have been canceled without prejudice or disclaimer. Claims 21-25 have been newly added herewith.

**Claim Rejections**

**Claims 1, 2, 4, 7-9, 13, 15 and 18-19**

Claims 1, 2, 4, 7-9, 13, 15 and 18-19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Butterworth (U.S. Patent No. 6,718,853). Applicant respectfully traverses this rejection.

Claim 1 recites a controller which controls the rotational linear velocities of the cutting blade and the paper to be substantially equal. The Examiner acknowledges that Butterworth fails to teach the cutting blade and a paper pipe rotating at the same speed (*see* Office Action item 12, page 11). Therefore, claim 1 and its dependents are allowable over Butterworth. Furthermore, claim 18 and its dependents are also allowable over Butterworth for at least some reasons similar to claim 1.

To the extent that the Examiner would now seek to apply the combination of Butterworth and Stoffels against these claims, Applicant submits that these claims are allowable over the combination of Butterworth and Stoffels at least because Stoffels fails to correct the above-noted deficiency of Butterworth. The Examiner asserts that Stoffels teaches a cutting blade 42 rotating at approximately the same circumferential speed as the outer surface of the roll (R). However, as noted in our previous response, Stoffels does not disclose that the cutting blade 42 cuts a core.

Indeed, there is a separate core blade 68 for cutting the core. Since Stoffels does not even teach that the cutting blade 42 cuts a core, it cannot be used to modify Butterworth to reach the claimed invention. Stoffels teaches nothing about a controller which controls the relative speeds of a cutting blade and a core; it only teaches relative speeds of a cutting blade and a roll.

The Examiner further asserts that the Stoffels cutting blade 42 could be used to cut the core as well as the roll. However, Stoffels does not teach such an apparatus. Stoffels teaches an apparatus in which cutting blade 42 cuts a roll and another blade, core blade 68, cuts the core (*see*, for example, column 7, lines 51-60 and column 9, lines 16-30). There is no evidence that the Stoffels cutting blade 42 could cut the core and the Examiner has provided no motivation to modify Stoffels cutting blade 42 so that it would cut the core. Additionally, even if the Stoffels cutting blade 42 could cut the core, Stoffels fails to teach a controller which controls the relative velocities of the cutting blade and the core. In fact, Stoffels fails to teach anything regarding the relative velocities of the cutting blade 42 and the core.

Finally, the Examiner asserts that the Stoffels blades are not used to modify Butterworth, but rather the teaching of the blade rotating at the same speed as the roll (*see* Office Action, page 5, item 8). Again, Stoffels teaches nothing regarding the speed of a rotating blade and a core, only a roll. Therefore, Stoffels provides no suggestion for the relative speeds of a blade and a core.

Accordingly, claims 1, 18 and their dependents are also allowable over the combined teachings of Butterworth and Stoffels.

**Claim 3**

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterworth in view of Elliott (U.S. Patent No. 5,004,383). Applicant respectfully traverses this rejection in view of the following arguments.

The Examiner acknowledges that Butterworth is deficient with regard to claim 3 at least because Butterworth fails to teach a pair of rotating members as claimed. The Examiner attempts to correct this deficiency with Elliott, but Elliott fails to correct the deficiencies of Butterworth.

Claim 3 sets forth rotating members which are positioned opposite to each other and which rotate in opposite directions relative to one another. As noted above, the Examiner acknowledges that Butterworth is deficient in this regard. However, Elliott is also deficient with respect to this feature of the claimed invention. Elliott merely teaches a single deburring device, not rotating devices on opposite sides of a core. The Examiner asserts that the motivation for providing deburring devices simultaneously on both ends of a core is to save time, but the only teaching or suggestion for doing so comes from the present application. Such a motivation is certainly not present in either Butterworth or Elliott. Since the only motivation for modifying the Elliott deburring devices comes from the present application, the Examiner's modification appears to be based on improper hindsight reasoning.

Furthermore, even if Butterworth were modified to include deburring devices on opposite sides, there is no motivation for having them rotate in opposite directions relative to one another. The Examiner asserts that the Elliott deburring devices may rotate in either direction. Even so, if

the deburring devices were placed on opposite sides of a core, they may rotate in the same direction. Because Elliott teaches only a single deburring device, it cannot teach any particular relative rotation of multiple rotating members as claimed, including rotating in opposite directions relative to one another. Accordingly, claim 3 is allowable over the combined teachings and suggestions of Butterworth and Elliot

**Claims 5, 6 and 20**

Claims 5, 6 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterworth (U.S. Patent No. 6,718,853) in view of Stoffels et al. (U.S. Patent No. 4,292,867). Claims 5 and 20 have been canceled, rendering their rejection moot. Claim 6 depends from claim 1. As argued above, the combination of Butterworth and Stoffels is deficient with respect to claim 1. Therefore, the combination is also deficient with regard to claim 6, which depends from claim 1 at least for the reasons discussed above.

**Claims 10-12, 14 and 17**

Claims 10-12, 14 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterworth (U.S. Patent No. 6,718,853) in view of Sartori (U.S. Patent No. 5,383,380). Claims 10-12, 14 and 17 depend from claim 1. Butterworth is deficient with respect to claim 1 for the reasons stated above. The Examiner cites Sartori only for the teaching of a cutting unit supported and guided on a rail section. Even if the Examiner's assertions regarding Sartori were true, Sartori still would not correct the above-noted deficiencies of Butterworth with regard to claim 1. Since the combination of Butterworth and Sartori is deficient with respect to

independent claim 1, the combination is also deficient with respect to claims 10-12, 14 and 17, which depend from claim 1.

**Claim 16**

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterworth in view of Scott (U.S. Patent No. 1,967,374). Applicant respectfully traverse this rejection.

Claim 16 recites a cutting mandrel which comprises a main pipe and a plurality of mandrel pieces sequentially inserted around the main pipe. An edge of each mandrel piece comprises a recess and a protrusion, so that the leading tips of the protrusions come into contact with each other to form a gap. The Examiner acknowledges that Butterworth is deficient at least because it fails to teach a mandrel having a plurality of mandrel pieces inserted around a main pipe. The Examiner attempts to correct this deficiency of Butterworth with Scott, but the deficiency of Butterworth is not corrected by Scott.

The Examiner alleges that the Scott tubular section 12 constitutes the claimed mandrel pieces. The Examiner asserts that if Butterworth were modified by Scott, the resultant device would include protrusions at the end of tubular section such that they form a recess (*see* the first full paragraph on page 14 of the Office Action). It is unclear why the Examiner believes that such a device would result, considering that neither Butterworth nor Scott teach tubular sections with protrusions such that they form a recess. The Scott tubular sections 12 do not abut each other, but are separated by tubular sections 13. Regardless, neither the tubular sections 12 nor 13 have protrusions which abut to form a gap. Instead, the sections 13 are made soft so that they

may serve as a cutting surface (*see* page 2, first column, lines 27-31). Rather than any gap for cutting, Scott teaches using the soft material of the tubular sections 13 for cutting. These tubular sections would absolutely not be designed to include protrusions to form a gap as claimed. Furthermore, because they operate on a different principle than Butterworth, namely using a soft material as a cutting surface instead of a gap, the tubular sections would not be used to modify Butterworth.

Accordingly, claim 16 is allowable over the combined teachings and suggestions of Butterworth and Scott at least because one of ordinary skill in the art would not have modified Butterworth with Scott as suggested by the Examiner and because any combination would be deficient.

#### **New Claims**

Applicant has added new claims 21-25 in order to provide a more varied scope of protection. Claim 21 depends from claim 1 and claims 22-25 depend from claim 18. Therefore, claims 21-25 are allowable at least because of their respective dependencies.

#### **Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. §1.116  
APPLN. NO. 10/606,210

DOCKET NO. Q76020

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

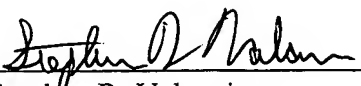
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Date: February 3, 2006